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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,310	11/25/2003	Vittorio Mascolo	Q78649	4731

23373 7590 01/08/2007
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EXAMINER

HOSSAIN, IBRAHIM M

ART UNIT	PAPER NUMBER
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2112

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/08/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/720,310	MASCOLO, VITTORIO	
	Examiner	Art Unit	
	Ibrahim Hossain	2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/25/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. **Claims 1-12** are rejected under 35 U.S.C. 102(b) as being anticipated by Arecco et al. (7,072,580).

2. **Claim 1**, a method for using the complete resource capacity of a synchronous digital hierarchy network, subject to a protection mechanism, in the presence of a data (packet) network, said network comprising nodes bi-directionally transmitting TDM and Data traffic over Working and Protection capacity/channels, wherein said method comprises the following steps, in case of failure at the affected nodes:

- The working capacity is cut (col. 21, lines 38-42)

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- The TDM traffic is subject to said protection mechanism (Fig. 3 and col. 15, lines 3-8), and is shifted over the protection capacity (col. 23, lines 21-23)
- A part of high priority data traffic is shifted over the protection capacity (col. 2, lines 11-13)
- A part of low-priority data traffic, transported over the protection capacity in normal conditions, is caused to share the remaining protection capacity with the low-priority part of the data traffic,(abstract). transported over the working capacity in normal conditions, in such a way as the complete protection capacity is used to carry data traffic in both normal and failure conditions (col. 2, lines 26-34).

3. **Claim 2**, wherein said method comprises the further step of reserving a part of the protection capacity to carry NUT (Not pre-emptive Unprotected Traffic)(col. 4, lines 61-67 and col. 5, lines 1-7) data traffic in both normal and failure conditions (col. 7, lines 1-20).

4. **Claim 3**, wherein said sharing of the remaining protection capacity for carrying the low priority data traffic is made by applying a function of statistical multiplexing to said low priority data traffic coming from both the working and the protection capacity, so as in case of failure there is not a service interruption, but only a service degradation (col. 4, lines 21-28).

5. **Claim 4**, is rejected for the same reason as discussed in the corresponding method claim 3 above.

6. **Claim 5**, wherein in said network nodes an Actuator function is performed on the connection matrix of the cross-connect, whereby in case of failure the new matrix connections to the protection capacity are established in order to restore the failed working capacity, said Actuator function causing the performing of the following actions on said protection capacity, in case of failure:

- Squelching partially the low priority traffic, present before the failure, (col. 2, lines 14-17) and pre-empting only the part necessary for carrying said TDM (col. 15, lines 3-5) and high priority data traffic (col. 2, lines 11-13)
- Bridge and Switch: acting the cross-connection matrix to restore the TDM and high priority data traffic (col. 3, lines 61-67 and col. 4, lines 1-5)
- Balancing the access for the low priority data traffic to the remaining spare capacity by said statistical multiplexing (col. 11, lines 51-57).

7. **Claims 6 and 7**, are rejected for the same reason as discussed in the corresponding method claim 5 above.

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8. **Claim 8**, wherein said network is a ring network subject to a MS/SPRING protection mechanism (col. 3, lines 56-57 and col. 23, lines 11-14).

9. **Claim 9**, wherein said network node comprises:

- A first switching element to switch the TDM traffic over the TDM part of the working channels, in the non-failure condition, or over the protection capacity in case of failure (col. 3, lines 34-42)
- A second switching element for the data traffic, comprising circuits to perform the following actions (col. 6, lines 59-61)
- Recognizing (identifiable) the class of service of the input data, said high or low priority data traffic (col. 2, lines 11-17)
- Assigning the data traffic to the correct output on said working or protection capacity in both non-failure and failure conditions, so as in failure conditions all the high priority data traffic is switched over the protection capacity, and the low priority data traffic is switched over the protection capacity according to said function of statistical multiplexing (Fig. 16 and col. 25, lines 55-67 and col. 26, lines 1-36).

10. **Claim 10**, wherein said second switching element comprises:

- An input mapper module for the said recognizing of the class of service of the input data (col. 2, lines 11-17)

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- A load balancer module for the said assigning of the data traffic to the correct output in both non-failure and failure conditions, said load balancer comprising circuits for (col. 4, lines 36-39 and 53-60)
- Dividing the high priority from the low priority data by mapping them in different Virtual Containers (VCs) of the synchronous digital hierarchy frames(col. 2, lines 8-21 and col. 12, lines 33-39)
- Applying the said function of statistical multiplexing for the low priority data traffic to access the dedicated VCs (col. 2, lines 35-40 and col. 12, lines 33-39)
- Balancing the low priority data traffic in both non-failure and failure conditions, so as in failure conditions said low priority data traffic is switched over the protection capacity according to said function of statistical multiplexing (col. 3, lines 27-33)

11. **Claim 11**, Synchronous digital hierarchy network, subject to a protection mechanism, with a data (packet) network deployed over it, said network-comprising means for performing (col. 4, lines 26-27 and col. 4, lines 32-35).

12. **Claim 12**, Synchronous digital hierarchy network, subject to a protection mechanism, with a data (packet) network deployed over it, said network comprising network nodes (col. 4, lines 26-27 and col. 4, lines 32-35).

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ibrahim Hossain whose telephone number is 571-272-9593. The examiner can normally be reached on 7:30 AM – 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Stucker can be reached on 571-272-9821. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)

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01/03/2007



JEFFREY STUCKER
SUPERVISORY PATENT EXAMINER